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MILWAUKEE, AUGUST, 1886.

TERMS: { \$1.00 a Year in Advance
Single Copies, 10 Cents.

BEFORE TRIAL!

Lamar, Mo., July 7, 1886.

SPERRY FEEDER CO.

Gentlemen:—Please send us one Feeder 9 x 18 Allis Roll (double). If satisfactory we will want two more of the same kind and one for 9 x 14 style B.

Respectfully,

Brand, Dunwoody & Co.

SPERRY FEEDER CO.

MINNEAPOLIS, MINN.

Increase Capacity, Increase Yields, Better Grades, Reduce Running Expenses, by using our Feeders.

Refer to the following mills in which our Feeders have been adopted:

*Pillsbury A,
Pillsbury B,
Anchor,
Washburn A,
Washburn C,
Northwestern,
Pettit,
Columbia,
Crown Roller,
Dakota,
Galaxy,
R. D. Hubbard & Co.,
Minneapolis, Minn.*

PENNSYLVANIA.
*H. S. Klinger & Co., Butler.
D. & A. Lukenbach, Bethlehem.
Melbourne Mills, Philadelphia.*

NEW YORK.
*Jewell Milling Co., Brooklyn.
Jones & Co., New York City.
Kings Co. Mill Co., Brooklyn*

OHIO.
*Schumacher Milling Co., Akron
R. D. Hubbard & Co., Mankato, Minn.; Austin Herr, Washington, D. C., and others.*

CALIFORNIA.

*Sperry & Co., Stockton.
Pioneer, Sacramento.
McGrady & Bro., Sacramento.
Horace Davis, San Francisco
Golden Age,
Del Monte,
General Bidwell, Chico.
Griseley Mills, Gridley.
Victor Mills, Hollister.*

AFTER TRIAL!

Lamar, Mo., Jul 29, 1886.

J. A. McANULTY.

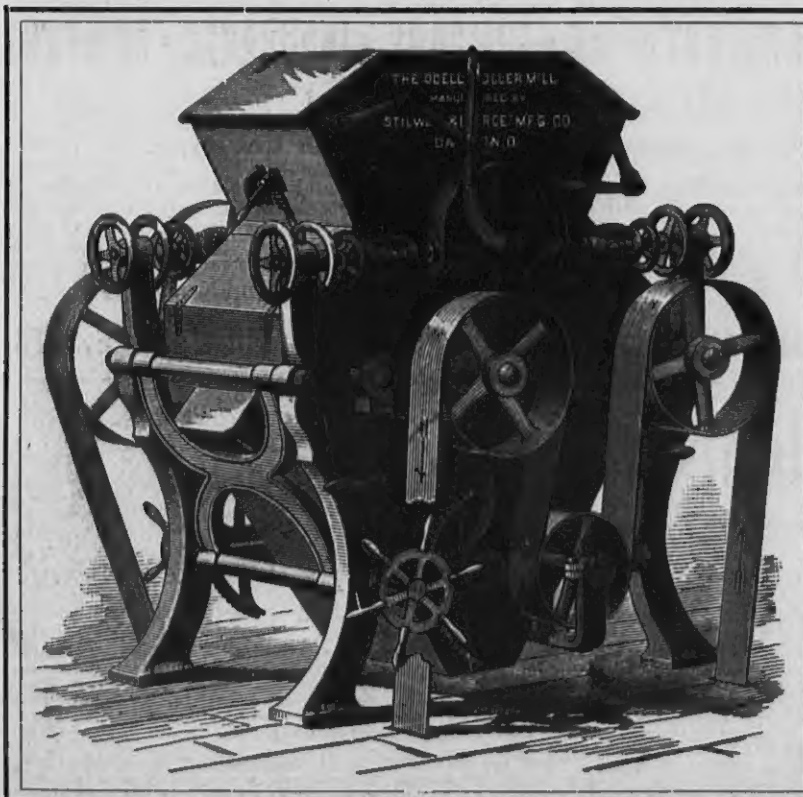
Dear Sir:—Please send us two more Feeders for 9 x 18 Allis double rolls, and one for 9 x 14 style B. We are convinced from our experience with the one sent us that they will increase our capacity and yield materially. Ship as soon as possible and send bill.

Yours Respectfully,

Brand, Dunwoody & Co.

The Only Force Feed Made for Feeding Mill Stock.

ODELL'S ROLLER MILL SYSTEM



Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with unparalleled success. All the mills now running on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction to parties using the Odell Roller and System, will be furnished on application to all who desire to investigate.

Odell's Roller Mill

Invented and Patented by U. H. ODELL, the builder of several of the largest and best Gradual Reduction Flour Mills in the country.

AN ESTABLISHED SUCCESS!

We invite particular attention to the following

POINTS OF SUPERIORITY

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each of the four rolls a separate driving-belt from the power shaft, thus obtaining a positive differential motion which cannot be had with short belts.

2. It is the only Roller Mill in market which can instantly be stopped without throwing off the driving-belt, or that has adequate tightener devices for taking up the stretch of the driving-belts.

3. It is the only Roller Mill in which one movement of a hand lever spreads the rolls apart and shuts off the feed at the same time. The reverse movement of this lever brings the rolls back again exactly into working position and at the same time turns on the feed.

4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and from the stationary roll-bearings without disturbing the tension-spring.

5. Our Corrugation is a decided advance over all others. It produces a more even granulation, more middlings of uniform shape and size, and cleans the bran better.

WE USE NONE BUT THE BEST ANBONIA ROLLS.

Our Corrugation differs from all others, and produces less Break Flour and Middlings of Better Quality.

Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on short notice. For further information, apply in person or by letter to the sole manufacturers,

STILWELL & BIERCE MANUFACTURING COMPANY, DAYTON, OHIO, U. S. A.

Agents for Du Four's Bolting Cloth.

If You Want to Extend Your Business among the Mill Owners of America,
 WHY DON'T YOU ADVERTISE IN
THE UNITED STATES MILLER?

ESTABLISHED 1876.

Subscription Price, - - \$1.00 Per Year.

A paper that reaches over 5,000 persons and firms interested in the milling business, every month. Mill Builders, Mill Furnishers, Flour Brokers, Insurance Companies, Ocean, Lake and Rail Transportation Companies, Millers seeking trade with Eastern, Southern and European Flour Dealers, Millwrights, Mill Supply dealers and in short all desiring to reach the trade should not fail to order their advertisement inserted. Will insert advertisements when ordered for six months or one year at the rate of \$1.00 per inch, single column width for each insertion. Address all communications to

E. HARRISON CAWKER,

Publisher "UNITED STATES MILLER," MILWAUKEE, WIS.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY FOR 1886

ISSUED FEBRUARY, 1886. PRICE, \$10.00.

SENT BY MAIL, REGISTERED AND POST-PAID. EVERY

MILL • FURNISHER, • FLOUR • BROKER, • TRANSPORTATION • COMPANY, • INSURANCE • COMPANY
FLOUR IMPORTER, MERCHANT MILLER,

Or anyone desiring to reach those connected with the **FLOURING INDUSTRY**, should order this Book at once.

THIS Directory contains the names and addresses of 18,289 Flour Mill owners in the United States and Dominion of Canada. It further specifies in many thousands of cases whether stones or rolls or both are used in the manufacture of flour; whether rye, buckwheat, cornmeal or oatmeal are specialties; whether steam or water power is used. Names of Millowners estimated to have over \$10,000 invested in the business are marked by a special sign. It also contains a reliable list of **MILLWRIGHTS** in the U. S. and Canada, and a long list of the **PRINCIPAL FLOUR BROKERS** in the U. S. and Canada, and a list of **EUROPEAN FLOUR IMPORTERS**. These last named lists are of immense value to **MILLERS**. Address all communications and make all paper payable to the order of

E. HARRISON CAWKER, No. 124 Grand Avenue, MILWAUKEE, WIS.

• Private • Telegraphic • Cipher •

COMPILED EXPRESSLY FOR THE USE OF

Millers, Flour and Grain Brokers, for Private Telegraphic Correspondence,
 either for Land or Cable Lines.

THIS CODE has been approved and is used by many of the best firms in this country and in Europe. It contains Flour Tables, Bran Tables, Middlings Tables, Flour Grades and Brands, Time of Shipment, Dates, Names of Places, American Currency, Sterling Quotations, Table on Limits, etc., Drawing, Credits, etc., Selling, Buying, Orders and Offers, Consignments and Shipments on Joint Account, Miscellaneous, Market Upwards, Market Downwards, Insurance, Shipping and Freight, Shipping by Regular Lines of Steamers, Finance, Bankers' Names, Standing of Firms, Telegraphing, Advances, Commission, Stocks and Crops, Weather, Samples and Quality, Equivalent of Sacks in Barrel Quantities, Commission Tables, Interest Tables, Equivalent Flour Prices in Currency, Sterling, Francs, Guilders, and Marks, Comparative Tables, Sack and Barrel Flour, Ocean Freight Rates (Comparative Table), Sailings from Seaboard (Table) Key to Sailings from Seaboard Table, Foreign Weights and Measures, etc.

We respectfully refer to the following well-known firms: S. H. Seamans (Empire Mills), Sec'y of the Millers' National Association; E. Sanderson & Co. (Phoenix Mills), Milwaukee, Wis.; Daisy Roller Mills, Milwaukee, Wis.; Nunnemacher & Co. (Star Mills), Milwaukee, Wis.; Roots & Co., (Millers), Cincinnati, O.; C. H. Seybt, (Miller), Highland, Ill.; Kosmack & Co., (Flour Brokers), Glasgow, Scotland; J. F. Imbs & Co., (Millers), St. Louis, Mo.; E. Schraudenbach, Okauchee Roller Mills, Wis.; Winona Mill Co., Winona, Minn.; Herrick, Kirk & Co., New York; and many others. Name of firm ordering copies printed on title page with cable address, etc., free of charge, making it to all intents and purposes your own *Private Cable Code*. State number of copies desired when writing. Prices furnished on application. Address,

THE RIVERSIDE PRINTING CO., 124 GRAND AVENUE, MILWAUKEE, WIS.

BELLAS, PATTON & CO.

Commission Merchants

3 INSURANCE EXCHANGE BLDG.,
218 La Salle St., CHICAGO.

GRAIN AND PROVISIONS.

Bought or sold for shipment, or carried on margins.
Market Reports furnished to correspondents.

(ESTABLISHED 1855.)

J. O. MATHEWSON & CO.

GENERAL COMMISSION MERCHANTS,

AUGUSTA, - GEORGIA.

E. B. OWENS & CO.,

Provisions and Grain

BALTIMORE, MD.

Sell on Track West and to Arrive.
Fine Storage Cellars for Meat and Lard.
Handle all kinds of Grain.
Liberal Advances on Consignments.

REFER TO Western National Bank, Baltimore; Citizens' National Bank, Baltimore; Wm. Ryan & Sons, Dubuque, Iowa; Whitmore Bros., Quincy, Ill.; Bloomington Pork Packing Co., Bloomington, Ill.

L. EVERINGHAM & CO.,

(ESTABLISHED 1865.)

Commission Merchants

300-301 Royal Insurance Building,
Opposite New Board of Trade, CHICAGO

THE PURCHASE AND SALE OF
GRAIN AND PROVISIONS
On the Chicago Board of Trade.
For cash or future delivery, a specialty.

Special information, indicating course of markets,
freely furnished upon request.

WM. GRIFFITHS, JAMES MARSHALL, GEO. E. DODGE.

GRIFFITHS, MARSHALL & CO.,

GRAIN :: COMMISSION

MINNEAPOLIS AND DULUTH, MINN.

Orders for Choice Milling Wheat Given Special Attention.

FLOUR :: BROKERS

MILLERS DESIRING TO SELL FLOURS BY SAMPLE in car lots in the cities of Baltimore, Md., or Washington, D. C., should communicate with P. H. HILL, Millers' Agent, WASHINGTON, D. C., and for Philadelphia, Pa., communicate with HILL & SCHAFF, Millers' Agents and Grain Brokers, 219 North Broad St., PHILADELPHIA, PA. Highest references.

SAM'L E. DUNHAM & CO.,

COMMISSION

Provisions and Grain

ROOM 83,

Board of Trade, CHICAGO.

The purchase of grain for shipment to home markets
a specialty.

N. S. CLARK.

A. C. MARTIN.

CLARK & MARTIN,

Commission Merchants

FLOUR, GRAIN,

FEED AND HAY,

No. 51 West Second St., Cincinnati, O.

PATTERSON BROS. & CO.,

Commission Merchants

FOR SALE OF

WHEAT, CORN, OATS, RYE.

DEALERS IN

Seeds, Hominy, Grits, Steam Dried Corn Meal.

44 VINE ST., CINCINNATI.

ORDERS AND CONSIGNMENTS SOLICITED.

ESTABLISHED - - - - - 1870.

JNO. R. TURRENTINE,

-GENERAL-

Merchandise and Produce Broker,
FLOUR, GRAIN, HAY AND RICE.

Dock Street, WILMINGTON, N. C.
MEMBER OF CHICAGO BOARD OF TRADE.

Refers by permission to A. K. Walker, Esq., cashier First Nat'l Bank, Hall & Pearsall, Adrian & Voller, Merchants, Wilmington; Robt. Carey & Co., New Orleans, La.; Geo. P. Plant & Co., St. Louis, Mo.; Martin & Bennett, Chicago, Ill.

Solicits Orders for Carolina Rice and Peanuts.

OWEN & BRO.,

Commission Merchants,

36 Chamber of Commerce, MILWAUKEE.
We give special attention to the purchase and sale of grain or provisions, for future delivery, here or in other markets.
Information regarding the present condition and future outlook for prices furnished on request.

OWEN & BRO.

S. S. STOUT.

H. G. UNDERWOOD.

STOUT & UNDERWOOD,

(Formerly Examiners U. S. Patent Office.)

SOLICITORS OF

PATENTS

66 Wisconsin Street,

MILWAUKEE, WIS.

TELEPHONE No. 502.

Life Insurance.

New England Mutual

LIFE INSURANCE CO.
OF BOSTON.

Assets, - - - - - \$17,846,546.65
Liabilities, - - - - - \$15,288,761.16

Total Surplus, - - - - - \$ 2,607,785.49

BENJ. F. STEVENS, Pres't.
JOSEPH M. GIBBENS, Sec'y.

BOILER INSURANCE.

AMERICAN

Steam Boiler Insurance Company

OFFICE, 45 WILLIAM ST., NEW YORK.
Cash Capital, - - - - - \$200,000

ASSETS JANUARY 1st, 1886.
U. S. Gov. Registered Bonds, of which \$100,000 is lodged with the Insurance Department at Albany, N. Y. \$216,138.00
Cash in bank and in office 10,668.72
Premiums in course of collection 16,839.35

LIABILITIES.
Reinsurance reserve 40,225.00
All other demands 2,013.27

\$ 243,044.33
WILLIAM K. LOTHROP, President.
WILLIAM E. MIDDLEY, Vice-Pres.
VINCENT R. SCHENCK, Secretary.

Fire Insurance.

Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT

FIRE INSURANCE CO.,

HARTFORD, - CONNECTICUT.

Cash Capital, - - - - - \$1,000,000 00
Reserve for Reinsurance, - - - - - 580,669 40
Outstanding Claims, - - - - - 90,396 57
Net Surplus, - - - - - 308,683 78

Total Assets, Jan. 1, 1886, - \$1,974,749 75
Surplus to Policy-holders, - \$1,303,683 78

J. D. BROWNE, President,
CHARLES R. BURT, Secretary.
L. W. CLARKE, Ass't Secretary.

Attention!

CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.

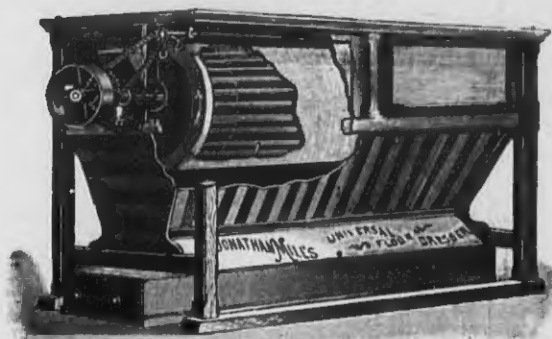
JONATHAN MILLS UNIVERSAL FLOUR DRESSER

GUARANTEED TO BE SUPERIOR TO ANY CLOTH BOLTING DEVICE FOR
CLEAR, CLEAN

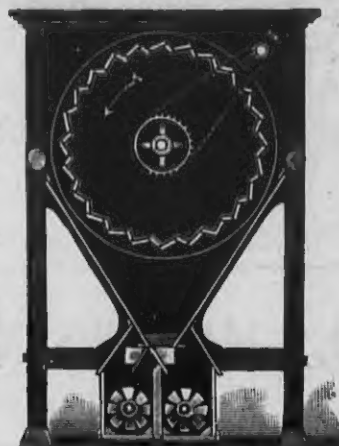
Bolting or Re-Bolting

OF ALL GRADES OF FLOUR.

They cannot be beat on any Stock, and are being extensively adopted for the entire Bolting in new mills.



Finely Designed and Mechanically Constructed.
— Slow Speed —
Occupies Small Space, and has Immense Capacity



For Price Lists, Sizes and Dimensions send to the

THE PROSPECT MACHINE & ENGINE CO., CLEVELAND, OHIO.

(Formerly THE CUMMER ENGINE CO.)

Send also for 150 Page Catalogue Describing their Engine.

"TRIUMPH" CORN SHELLER

CAPACITY
2000 BUSHELS PER DAY.

Shells wet or dry corn.
CHEAPEST AND BEST SHELLER.

PAIGE MANUF'G CO.,
No. 12 Fourth St., Painesville,



A. BLOEDEL,

Manufacturing

Jeweler & Diamond Setter,

Dealer in

WATCHES, CLOCKS, JEWELRY,
Silver and Plated Ware.

Special Attention Given to Repairing.

No. 106 GRAND AVE.,

Cor. West Water St.,

MILWAUKEE, WIS.

BIRGE & SMITH,

PRACTICAL

Millwrights,

PLANS, SPECIFICATIONS AND ESTIMATES MADE
FOR ALL KINDS OF

MILLWORK, MACHINERY, &c.

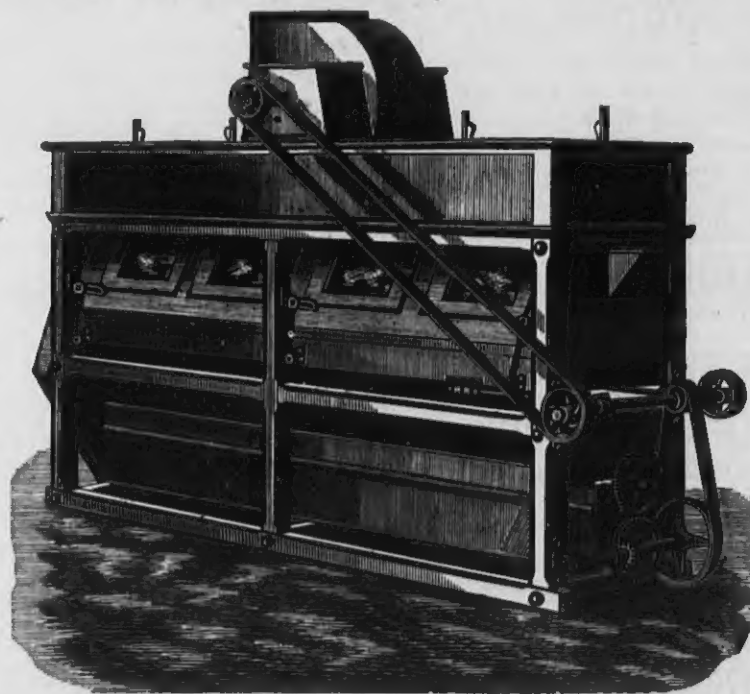
Flour, Sawmill, Tanners' and Brewers' Machinery
AND GENERAL MILL FURNISHERS.

Cor. East Water and Knapp Sts.,
MILWAUKEE, WIS.

Eureka * Middlings * Purifier!

BEST AND SIMPLEST MACHINE IN THE MARKET.

Entirely Original.



One Invention and Manufacture

LEAST SPACE. LEAST POWER. AUTOMATIC FEED.

Best Device for Attaching and Stretching Cloth.

(Cloth can be changed in five minutes.)

Bets Controlled and Evenest Air on Cloth, making it of Great Capacity.

Machines Warranted in every Respect.

FOR FURTHER PARTICULARS, ADDRESS,

C. N. SMITH, DAYTON, OHIO.

	Length of Cloth.	Width.	Extreme Height.	Pulley.	Speed.
00	8 ft.	3 ft.	6 ft. 6 in.	5 x 3	500
0	10 ft.	3 ft.	6 ft. 6 in.	5 x 3	500
1	10 ft.	4 ft.	7 ft. 6 in.	6 x 3	500

[Please mention this paper when you write to us.]

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.00
 To Canadian subscribers, postage prepaid..... 1.00
 Foreign subscriptions..... 1.25

All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.

Bills for advertising will be sent monthly, unless otherwise agreed upon.

For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as second-class matter.]

MILWAUKEE, AUGUST, 1886.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC.—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE.—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM.—Performances every hour from 1 P. M. to 10 P. M. every day.

NEW PEOPLE'S THEATRE.—Performances every evening, and Wednesday, Saturday and Sunday matinees.

AMONG THE NORTHERN LAKES

of Wisconsin, Minnesota and Iowa, are hundreds of delightful places where one can pass the summer months in quiet rest and enjoyment, and return home at the end of the heated term completely rejuvenated. Each recurring season brings to Oconomowoc, Waukesha, Beaver Dam, Frontenac, Okoboji, Minnetonka, White Bear, and innumerable other charming localities with romantic names, thousands of our best people whose winter homes are on either side of Mason and Dixon's line. Elegance and comfort at a moderate cost can be readily obtained. A list of summer homes with all necessary information pertaining thereto is being distributed by the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY, and will be sent free upon application by letter to A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis.

A VERY comprehensive article from A. B. Wood, U. S. Consul at Dundee, Scotland, shows that British and Scotch investment companies have £59,812,268 in American investments, principally in railway bonds, mining, cattle, land and mortgages, and municipal bonds.

CONGRESS has extended the special post-office delivery system to third and fourth class matter. As soon as the department is prepared for the change, small packages of merchandise will often be sent by mail instead of by express.

THE July number of the Austro-Hungarian Miller (Vienna) contains a lengthy closing article by Eugene Kreiss, the Continental agent of the Geo. T. Smith Purifier Co., in the discussion which has been carried on for some time in relation to the "Smith" purifier and the "Reform" purifier, manufactured by Seck Brothers, of Dresden, Germany.

PROF. DODGE, Statistician of the Agricultural Department, in his official report on crop conditions on the 1st of July, reports an estimated yield of winter and spring wheat of 80,000,000 bushels in excess of the yield of

1885. The average exportation of wheat and flour in the last five years has been 116,000,000 per year. During the present year the visible supply of wheat has been decreased 13,000,000 bushels, leaving 46,000,000 bushels in farmers' hands of the crop of 1885.

MR. WILLIAM H. TRUDGEON, representative of the Richmond Manufacturing Company in Indiana, Ohio and Kentucky, was married at Evansville, Ind., July 13th, to Miss Mellaine Stockton, a charming lady of that place. We tender the young couple our hearty congratulations and wish them a long and happy life. Mr. Trudgeon has, we understand, purchased a handsome residence property at Dayton View, across the river from Dayton, O., where he will reside after a while. We are just a little bit disappointed in this, as we more than half believed that we had persuaded Mr. Trudgeon to locate in Milwaukee, the "Athens of America."

THE Dust Collector case still drags on. The testimony, we believe, has all been taken and the chances seem good for a decision sometime this fall.

GEO. T. SMITH, Esq., and M. W. Clark, Esq., of the Geo. T. Smith Middlings Purifier Co., Jackson, Mich., recently paid a flying visit to Milwaukee.

JOHN M. CASE, Esq., and Col. Watson of the Case M'fg Co., Columbus, Ohio, spent a day in Milwaukee, recently. Col. Watson is on his way to the lakes about Minneapolis for a brief vacation.

THE long drouth experienced throughout the Northwest, together with the low prices offered for wheat, are anything but encouraging to farmers. The barley crop, however, will be the handsomest that has been harvested for many a year.

A SAUCY St. Paul paper says: "The disconsolate Minneapolis mill owners when short of water sit on the banks, like Israel of old and wail, 'You can never turn the mill with the water that is past,' and then they go to figuring what it will cost to put in steam, which will reduce them to the level of St. Paul, and then they will wail the more."

BISMARCK ON SOCIALISM.

Prince Bismarck, in a recent speech in the Reichstag, alluding to the growth of Socialism, said that in the time of the French Revolution, Socialism proved a powerful spiritual lever of French victories, and that history might be repeated, though he thought the present French army was opposed to workingmen's movements. "It is impossible," he continued, "to tell which party would be victorious. If great European troubles should again rise, they would be far more complicated than those we have already passed through, because they would be partly of an international nature. When these movements come I will have Germany oppose them to her utmost."

We will send The Milling World (weekly) and the U. S. Miller for one year for \$2.00.

FOREIGN ITEMS.

ABOUT forty miles from Pekin in China the emperor has had a summer palace which was built 300 years ago at a cost of about \$10,000,000. The news comes of its total destruction by fire. No insurance.

THE Russian thistle, introduced by Menonite immigrants from Russia with their first importation of spring wheat, is reported to be spreading rapidly on new lands of Dakota and Minnesota and threatens to become a troublesome intruder.

ACCORDING to the special correspondent of The Standard at Berlin, the railroad locomotive works of Herr Borsig at Berlin, which are the oldest on the Continent, having been in existence forty-eight years, are shortly to be closed, owing to the fact that through the low prices prevailing of late. The establishment has for some time been carried on at a constant loss.

LATE reports from France indicate that the Panama Canal Loan is being rapidly taken. The majority of French people appear to have unbounded confidence in the success of De Lessep's canal scheme.

WINNIPEG citizens are making arrangements for the reception and entertainment of the members of the Minneapolis Millers' Association during the latter part of August.

NEWS.

ASSIGNED—O. C. Pierce, Hamburg, N. Y. A NEW mill is being built at Madison, Dak. L. ROUSH is erecting a 50-bbl. mill at Hale, Mo.

AARON RISE is building a mill at Newberry, Pa.

A ROLLER mill is being built at Rock Valley, Iowa.

DISSOLVED.—McGinty & Wahl, at Marinette, Wis.

BURNED—Wm. H. Long & Co.'s mill at Howard, Pa.

DISSOLVED.—Hubbard Bros. & Cameron, Mobile, Ala.

H. W. VOGEL, at Wilton, Wis., is remodeling his mill.

G. G. FARRANCE is building a mill at Fairmount, W. Va.

REMODELING—The Los Gatos Mill Co., at Los Gatos, Cal.

THE Huntsville (Mo.) "Valley Mills" are being remodeled.

PLAINVIEW, Minn., offers a bonus for a 100-bbl. roller mill.

W. B. MCCLURE is rebuilding his mill at Oceana, W. Virginia.

H. P. WESTWEYER is building a 100-bbl. mill at Sullivan, Mo.

NEWHARTS' hominy mill will be ready to start up next month.

WORK on the mill at San Juan Island, W. T., is progressing rapidly.

CHARLESTON, S. C., will probably have a large flouring mill soon.

MATHEWSON & Co., of Norfolk, Neb., have sold the Norfolk mill.

A 500 bbl. roller mill is being built by Geo. Wilson at Rochester, N. Y.

CHAS. TYLER has bought the Bridgewater mills at Fredericksburg, Va.

E. D. KINCHELOE has ordered machinery for a new mill at Delaplane, Va.

BURNED—Bulk & Hoff's mill, near Manchester, Va. Loss about \$7,500.

THE mill of Caddis & Thomas, at Uniontown, Pa., was recently burned.

LUCE & MURRAY, millers at Louisiana, Mo., are succeeded by J. W. Palmer.

ASSIGNED—W. Townsend & Co., wholesale flour dealers, Des Moines, Iowa.

THE St. Paul Roller Mill Co., will erect a roller mill at Hastings, Neb., soon.

INCORPORATED—The Crowell Milling Co., Edwardsville, Ill. Capital \$25,000.

OTTO TROOST & SON are improving the old "Forbush Mill," at Winona, Minn.

OLSON & RAMSETT, millers at Purdy, Wis., are succeeded by Ramsett & Sons.

KERR & TROBERT, at Griswold, Ia., have been succeeded by Trobert & Prather.

BURNED—The Lindell mill at Ft. Collins, Col. Loss \$60,000; insurance \$28,000.

WM. FITZGERALD'S mill at Hamilton, Ont., Canada, was recently burned; insured.

THE FARMERS MILL AND ELEV. Co. are about to build a mill at Loveland, Col.

THE WEBSTER ROLLER MILL Co., at Webster, Dak., will soon be ready to start up.

HALTEMAN & TALLEY, of St. Louis, have gone out of the mill-furnishing business.

THE Nappanee Milling Co., Nappanee, Ind., are building a 100-bbl. steam roller mill.

DISSOLVED—Wheeler & Rogers, Wycena, Wis. A. B. Wheeler continues business.

P. M. WIERT'S mill at Piney Creek, Md., has been entirely remodeled and started up.

THE SAMOTH MILL CO., with a capital stock of \$10,000 has been incorporated at Samoth, Ill.

A CHANGE—Askew & Miller will change their flour mill to a planing mill in Albion, Ind.

MENTZER BROS., Frankstown, Pa., are contemplating extensive changes in their mill.

The mill at Enon Grove, Ga., owned by T. F. Shackelford, and recently burned, will be rebuilt.

A new roller mill of 30 bbl. capacity has been completed at Glen Cove, Md., by B. G. & J. C. Smith.

GEO. W. PHILLIPS & SONS have bought the "Summit Mills" at Apulia, N. Y., and will remodel them.

THE MILFORD WATER POWER IMP. Co. have a neat 50 bbl. roller mill in operation at Milford, Iowa.

RUSH & SPRAGUE'S mill, at Leavenworth, Kas., will start up with 1,000 bbl. capacity on or before Sept. 1.

A. W. OGILVIE & Co. are considering plans for a new 1,500 bbl. roller mill to be erected at Montreal, Canada.

At Newell, Iowa, the mills of the Newell Roller Mill Co., were recently burned, causing a loss of \$12,000.

The Herdman Harrison Milling Co. has been incorporated at Morrisonville, Ill., with \$30,000 capital stock.

THE EDWARD HARRISON MILL CO., of New Haven, Ct., have established a branch factory at Columbus, O.

The mills of Applegate & Hamilton, at Falmouth, Ky., were recently destroyed by fire. Loss about \$20,000.

THE GREENVILLE EXPORT MILLING CO., of Greenville, Ill., have started up their new mill. C. H. Seybt is manager.

The mill of A. G. & J. A. Ham. at Woburn, Mass., was recently damaged by fire to the extent of \$15,000; insurance \$9,000.

THE TRACY ROLLER MILL CO., is the name of a newly incorporated firm at Tracy, Minn. with a capital stock of \$50,000.

E. SCHRAUDENBACH & Co., formerly of Okauchee, Wis., are building a 200 bbl. roller mill at Frederick, Brown, Co., Dakota.

The mill at Alpowa, W. T., owned by Ray Woodworth, was burned July 7th. Loss \$9,000; fully insured. Origin of fire unknown.

MUTCHNER & HIGGINS Co. have incorporated with \$50,000 capital to carry on the grain and milling business in Indianapolis, Ind.

The stone mill at Dayton, W. T., has been fitted up as a complete roller mill. It is known as the Portland Flouring Mill Co.'s Dayton mill.

COLLAPSED—July 18, the flour warehouse of N. T. Sweezy, Sons & Co., in New York, owing to too great weight of flour. Damage about \$15,000.

THE Wing mill at Litchfield, has been sold by a Master in Chancery for \$157,500 the purchaser being J. B. M. Kehlor, of St. Louis, who was one of the largest creditors.

Howard Dempsey, an employe at Mahoney's mill, La Crosse, Wis., got his left hand caught in the feed rollers of the bolter, and his thumb and three first fingers were horribly crushed.

ABOUT 100 Iowa grain dealers met July 29, at Mason City, and authorized the organization of a mutual fire insurance company. D. D. Cutler, of Rockwell, Ia., is secretary and treasurer.

JUDGE LOOMIS has returned to St. Louis, after having spent several months in New Mexico and California for the benefit of his health. We are glad to learn that he is again quite well.

THE TEXAS STAR FLOUR MILL CO., Galveston, Tex., are about to build an additional mill, with a daily capacity of 400 bbls. Also an elevator of 150,000 bushels capacity. The contract has been let.

In sinking an artesian well for the North Dakota roller mill, at Hillsboro, a vein of natural gas was struck at a depth of 108 feet. When lighted the flame shoots to a height of three feet. Mr. Green, the proprietor, will run his 125 horse-power engine with it.

THE Bardett Milling Company, San Francisco, has filed articles of incorporation in the County Clerk's office. The capital stock is \$25,000. The directors are as follows: Jay Deiming, Leon Maisson, M. T. Freitas, John J. Wall and A. Bardett, all of San Francisco.

AN Exhibition of the Arts, Inventions, Manufactures, Products and Resources of the United States of America will be opened at 3 p. m., on Monday, May 2, 1887, at Earl's Court, Kensington, London, England, by the President of the United States, from the White House, Washington.

On July 12, the boiler in the National mill at Parsons, Kan., exploded, killing David Drumrine (white), engineer, and Anthony Story (colored), fireman. The engine room was totally destroyed, and but for the prompt action of the fire department the entire mill would have been destroyed. Damage \$2,000 to \$5,000; fully insured.

ARTICLES of incorporation were filed July 27th, by the American Cracker Company, San Francisco. The Directors are: Leon Sloss, James H. Jennings, John Proctor, Jas. Dunn and Geo. H. Garthorne. The Company has issued 2,000 shares of stock, at \$100 each, and the total amount of \$200,000 stock capital has been subscribed.

VERY often spontaneous combustion is but another name for incendiarism. It is a curious fact that spontaneous combustion, most cases, gets in its work in the night time, when no one is around, and seldom occurs in daylight. More than this, it appears to be able to judge of the best time to put in its deadly work and chooses Saturday night for its purpose.—*Cincinnati Price Current*.

THE PROSPECT MACHINE & ENGINE CO., of Cleveland, O., are adding another building to their wood-working shops. They expect to have the new building completed about the 12th of August. This will about double their capacity in that department. They report their reel trade marvelously on the increase, every month showing a large advance over the preceding one. They also state that within the past two weeks several new mills have ordered these reels, some putting them in exclusively, and others, for the greater part of the bolting. Among their recent engine shipments are two aggregating 276 h.p. for the Hadley Thread Co., Holyoke, Mass.; one of 189 h.p. for the Joshua Hendy Mach. Works, San Francisco; one of 190 h.p. for the Dennison Paper Co., Mechanic Falls, Me., and four engines of 50 h.p. and under, to the Boden Condensed Milk Co., Northville, Mich., and C. F. Wardwell, of Chicago.

Now is your time to send in your subscriptions for milling papers and other periodicals. Read our propositions on another page.

PUBLICATIONS RECEIVED.

OGILVIE'S POPULAR READING, No. 33, published by J. S. Ogilvie & Co, 31, Rose st., New York, has been received. It contains ten excellent stories by popular authors. Price 30 cents.

THE GRAPHIC NEWS, Cincinnati, contains some excellent articles and illustrations. Some sketches of the Grand Rapids Boat Club are very interesting.

"THE ART AMATEUR" for August contains a great variety of articles and illustrations of interest to all lovers of art and fancy work of various kinds. M. Marks, Publisher, Price 35 cents per number.

"A ROMANCE OF MILLING REVOLUTIONS" is the title of a neat little book issued by Mr. F. A. Hall, publisher of "The Modern Miller" of Kansas City. The story was originally published in the *Modern Miller* and is now issued book shape. It is an ingenious dissertation on a floury subject and will doubtless prove quite palatable to the milling fraternity.

"FIRE DOORS AND FIRE-PROOFING WOODWORK" is the title of a good essay sent us by Col. W. L. Barnum, Secretary of the Millers National Insurance Co., 305 La Salle st., Chicago.

RECENT MILLING PATENTS.

The following list of Patents relating to milling interests, granted by the U. S. Patent Office during the past month, is specially reported by Stout & Underwood, Solicitors of Patents, 66 Wisconsin st., Milwaukee, Wis., who will send a copy of any patent named to any address for 50 cents:

Issue of June 1, 1886. No. 342,854—Automatic grain meter, E. N. Williamson, Lodge, Ill.; No. 342,857—Scalper, R. Bing, May's Landing, N. J.; No. 342,902—Automatic grain weigher, E. Dickson, Kewaunee, Ill.

Issue of June 8, 1886. No. 343,324—Grain separator, C. Casper, Cleveland, Ohio; No. 343,364—Grain separator and elevator-feeder, B. D. Crocker, Walla Walla, Wash.; No. 343,400—Dust collector, W. Richardson, Milwaukee, Wis.; No. 343,402—Grain scourer, C. B. Slater, Blanchester, Ohio; No. 343,514—Hull ng mill, J. F. Winchell, Springfield, Ohio; No. 343,548—Attachment for dust collectors, W. Richardson, Milwaukee, Wis.

Issue of June 15, 1886—No. 343,634—Method of cleaning grain, B. D. Crocker, Walla Walla, Wash.; No. 343,649—Grain and middlings separator, C. Rippin, St. Louis, Mo.; No. 343,761—Flour bolt, K. Dougan, Calwood, Mo.; No. 343,763—Automatic grain weighing and registering machine, R. S. Gabbey, Roseville, Kas.; No. 343,823—Grain Separator, M. Lavering and E. H. Anspaugh, Columbia City, Ind.; No. 343,844—Grain weighing and registering scale, W. M. Perkins, La Fontaine, Ind.; No. 343,891—Apparatus for cleaning grain, B. D. Crocker, Walla Walla, Wash.

Issue of June 22, 1886. No. 343,999—Grain separating machine, J. Lucas, Hastings, Minn.; No. 344,013—Grain register, F. Stanton, Stillwater, Min.; No. 344,143—Grain weighing apparatus, A. E. Wade, Parkville, Ill.; No. 344,192—Automatic grain weighing apparatus, J. F. Milligan, St. Louis, Mo.; No. 344,246—Process of manufacturing cornmeal, J. M. Case, Columbus, Ohio.

Issue of June 29, 1886. No. 344,336—Grain tally, J. Miller, Canton, Ohio; No. 344,490—Grinding mill, R. Morrell, Summit, N. J.; No. 344,516—Process of Manufacturing corn meal and buckwheat flour, J. M. Case, Columbus, Ohio; No. 344,663—Automatic grain weigher, M. K. & F. S. Lewis, Hastings, Neb.

Issue of July 6, 1886. No. 344,902—Artificial millstone or buhr, E. I. Heller, Hungary; No. 345,163—Feed grinder, M. L. Metzger and A. Cooper, Harrisburg, Penn.; No. 345,177, Middlings purifier, R. A. Row, Pomeroy, Wash.

Issue of July 13, 1886. No. 345,353—Automatic apparatus for measuring and weighing grain, E. Witt, Germany; No. 345,452—Flour packer, C. W. Roth, Evansville, Ind.; No. 345,493—Grinding mill, N. T. Fitch, Wilmington, Del.; No. 345,508—Dust collector, J. B. Holgate, Burnley, England.

Issue of July 20, 1886. No. 345,726—Cooke machine, F. Prins, Milwaukee, Wis.; No. 345,997—Machine for cleaning grain, L. M. Smith, Canandaigua, N. Y.; No. 346,015—Millstone dress, D. T. Atkins, Worham, Va.

Issue of July 27, 1886. No. 346,272—Grain weighing and registering apparatus, W. E. Dunkel, Macon, Ill.; No. 346,326—Middlings purifier, W. M. Shook, Canton, Ohio; No. 346,449—Grain drier, A. Wolcott, Wolcott, Ind.

GRADUAL REDUCTION BY ROLLER MILLING, APPLIED TO SOFT WHEATS.

BY T. W. HIBBARD.

[A paper read before the convention of British and Irish millers at Dublin.]

It is most likely the subject I have to bring before you to-day may not be interesting to many, but to some who have not had experience in working soft wheats by roller milling the paper I am about to read may possess some value. I am sure if I shall be instrumental in giving rise to a discussion of practical utility I shall not have read in vain. My apology for reading the paper at all, now that foreign and generally hard, dry, brittle wheats are mainly used, is that if we can utilize our native growths, which are, as a rule, shillings per quarter lower in price than American—our chief competitor in the flour market—thereby giving our customers a sweet, well flavored, well-keeping flour at a lower price, we shall perhaps be better able to hold our own, particularly those millers living at some distance from a seaport town, and to whom the railway carriage on wheats of foreign growth is a material consideration.

Wheats known as hard or semi-hard are of a more or less flinty nature, and when broken down by the break rolls give us a break meal consisting of a small percentage of flour and large of middlings and semolina. The middlings and semolina are very easy to grade and purify, and as easily pulverized by the smooth rolls. Ghirkas, Saxonskas, Spring, American, Indian, etc., are examples of this class.

Soft wheats, like Oregon, New Zealand, some American winters, and all of British and Irish growth, are more liable to be influenced by variations of humidity of the atmosphere, but more particularly native growths. The particles of endosperm when broken up are of a soft, friable nature, and can not be handled without making flour, consequently require different treatment in grading for purification.

The bran also holds the endosperm more tenaciously, is thus more difficult to clean, and requires more break rolls for a given quantity of wheat. The rolled semolina and middlings do not dress as freely, and are more inclined to cake than crush. Taking all these things into consideration, I think a case is made out why soft wheats should have special treatment. The word soft wheat must not be construed to mean damp. These latter can only be milled economically after the excess of moisture has been extracted.

FIRST BREAK.—There is a prevalent notion that the crease of the berry holds the black flour which is generally obtained from the first break, and various have been the devices for splitting wheats and at once liberating the black flour. We have had before the milling public, discs, rolls of different groovings and speeds, no grooves, etc., etc., and as I think, to no purpose. I will, however, except discs, these machines being very good wheat cleaners. The first break in most mills is really a wheat cleaning process, and very imperfect as generally used. My reasons for opposing the generally accepted theory of crease-dirt elimination by first break rolls I will now give you.

Some time ago I experimented with a machine for splitting wheats, and succeeded, by thoroughly grading my experimental lots,

in getting almost every berry split at one operation down the crease, the quantity and quality of flour, dust and tails from the split wheats after dressing being carefully noted. The splits were again put through the same process, and results noted. The reduced splits were again and again reduced down to five reductions; as a matter of fact, I had dark flour at the fifth reduction. The total flour from the five reductions was from eight to ten per cent. of the wheat. My deductions from these experiments were, either the husk holds dirt very tightly, or else the flour, coming in contact with the husk, is dyed. If my deductions are correct, it follows that by milling, as generally practiced, some dark flour is left to be mixed with the other flours, and lower their value. I will now submit the process I would advocate to meet this difficulty. Put your cleaned wheat through a polisher and brush, then aspirate thence to first break roll, with as little friction as possible. Your wheat is then as clean as it is possible to have it; then on your first break open out every berry of wheat. You will get by dressing the product about two per cent. of flour, low grade, not good enough to join your other flours, but you will find the two per cent. of flour has done for you something that you can not accomplish by any other method. It has acted upon the broken berries in a similar manner to soap and water on your hands, taking away all the fine particles of dust and dirt, which have a greater affinity for the flour than the berries, and, in consequence, you will find even your sixth break flour will be some shillings better in color, in fact all around you will be the gainer. A centrifugal scalper should be used on the product of first break roll, covered with zinc, its tail to second break roll, and its product to a centrifugal silk, arranged to give flour, dust and tails.

II., III., IV. AND V. BREAKS.—The 2d, 3d and 4th break rolls should be used to detach the particles of endosperm from the husk in the form of middlings and semolinas. The 5th break is the first bran cleaning roll, and, if worked properly, should give, after scalping, a broad, nearly clean bran in good order for the last or 6th break roll to finish. If the whole of the rolls have done their fair share of the work, the bran should be broad from the 6th break roll; and when scalped by a centrifugal of small diameter, zinc covered, running 500 to the minute, give a clean bran, scarcely showing the marks of the grooves of the roll.

BREAKS MEAL.—I would put the breaks meal through ordinary hexagon reels with sliding action, taking off the tail over 58 Gries gauze to go on the grader. This we name ungraded semolinas. Product of reels to centrifugal silks. These centrifugals must be above their work and driven above the usual speed. It is better to have some middlings made into flour than flour going to middlings purifiers, and then to dust collectors. This extra speed will insure sharp, round middlings, in good condition for purification. My experience is, that for this work the centrifugal should be driven 300 to 400 revolutions to the minute.

MIDDLING PURIFICATION.—Soft wheat middlings do not run as well as those from hard wheat, therefore you will require more silk surface. Be sure you have a stretching device, by means of which you can, while the

machine is running, make your cover quite tight, otherwise you will be troubled with middlings forming themselves into heaps on the sieve, and the purification will be only partial. Provide for repurification of cut offs on another machine.

GRADING SEMOLINAS.—You will require a dust sheet at the head of semolina grader, the other part of the grader to be covered with three sizes of Gries gauze. Tail of grader returns to third break roll. The three sizes of semolina go to aspirating purifiers, having four divisions and a sieve on the top of each to make four sizes for the divisions. The air currents on each division will make firsts, seconds and thirds. Have your air currents on each division and sufficiently strong to make the firsts quite pure; the seconds and thirds will require repurification. The result will be twelve sizes firsts, quite pure, four sizes seconds from re-purifier, and four sizes thirds from re-purifiers.

SEMOLINA REDUCTION.—The twelve sizes of pure semolina should be divided over a double smooth roll, according to size; scalped and product of scalper go to centrifugal silk or silks making flour, dust, small tails and large tails. This will be the first reduction, the second reduction by double smooth roll, taking dust from first reduction, one side; small tails from first roll, after purification, and large middlings on the other, and dressed by centrifugal.

The third reduction will embrace dust from second and fine middlings. Great care should be taken not to cake the semolinas on the first and second reductions, therefore the roll should be set to thoroughly crush, with out caking. If hard cakes are formed, some will get through to the dust sheet, meaning a loss in roller power, and some will get to the tail, to be rolled with a class of stuff different in size and quality. Upon the third reduction you will have to go down hard, and here it will be impossible to avoid some caking, but there is nothing gained by squeezing too hard.

TAILINGS REDUCTION.—The mode of treatment I consider the best for this part of the process is this: For first reduction take your large tailing from first and second reduction of semolinas and roll together with the large seconds from purifiers; do the same with the small tails and seconds; pass through a scalper, the product of scalper to be dressed with rolled dust. The second reduction of tailings will be similar. You get a finished product from both reductions from tail of scalpers.

DUST AND FINE TAILS REDUCTION.—Fine tails rolled separately, dust rolled separately, but dressed together, this insures a regular product. It has been found, when rolling soft wheat dust—the dust toward the latter reductions is very soft—it is difficult to dress, and, in fact, gives so much trouble in separation as to induce many millers to sell it at the best price obtainable, as a low grade flour. The amount of money received for this unfinished product, now that feeding stuffs and flour are near together in price, does not render the loss by selling it unfinished so apparent, but there is a liability to make a very heavy loss at this point. To meet this case, at the point in the system where the tendency to softness is noticed put the rolled dust, etc., through a centrifugal of small diameter running 350 to 400 to the minute. The dust sheet will give a product surpris-

ingly sharp and in good condition for the succeeding roll. Send the tail to sieve purifier. You would then, at the tail of your purifiers, have a finished light fluff and good middlings for next roll. The last roll in the system operating upon dunst should go to centrifugal, with centrifugal to take its dunst; this last centrifugal to run 400 to minute, and give a finished production over its tail. The product of this dunst sheet will be the barometer of the whole reduction. This product should be inspected frequently, and its disposal determined. And here, I should say, it is my experience that this last product varies with every mixture of wheat and every change of temperature and weather, and no automatic arrangement will quite meet the case; in fact, this part of the system must be watched most carefully.

I would suggest and, indeed, consider it imperative, an exact account of each day's wheat consumption and products should be taken, every day would then show its weakness if any existed. You will perhaps have noticed I prefer zinc covers for scalpers; my reason for so doing is, the zinc keeps cleaner than wire; wire cloth is frequently clogged, zinc rarely so. Gries gauze is best suited for grading semolinas for purification, the numbers of Gries gauze being much nearer together than zinc, as now made. It is very important we should have all the runs arranged to give a good angle, especially where dunst and flour are concerned, and if possible run direct, without any turnings, over a smooth surface without any obstruction; by seeing to this you will avoid many stoppages from blocks. I have given a diagram showing the runs accurately in accordance with my paper. The principle of the diagram will hold good for plants of any capacity, the only difference being the sizes and numbers of machines.

I now sum up the points which are in my opinion, essential to successful milling on soft wheats, viz:

Special cleaning before first break; heavy first break; six breaks on grooved rolls; nine reductions on smooth rolls; good purification; use of high speed centrifugals at certain stages; frequent inspection by competent man of dunst from last centrifugal.

DULUTH FLOUR TRAFFIC.

For several years past Ward's line of steamers, among which are the Hodge, Osceola, and St. Paul, have been carrying flour from Duluth in connection with the Delaware and Lackawanna road. Lately there has been some disagreement between the companies in regard to division of rates, and the Lackawanna is evidently endeavoring to freeze out the steamboat line. It is understood that the road has not settled with the boat line for the flour carried this season, and the fact that the line has in the past few days taken grain charters here, shows the truth of the statement that something is the matter. The railroad company has of late been chartering vessels to carry its flour, and the Cuba and Nebraska have been running in this track nearly all the season. Other boats have taken occasional trips for the Lackawanna, notably the Russia and Colorado and those of Wilson's boats that are fitted for handling flour, all big carriers. Having these boats at command, the road is naturally independent and intends to dictate rates.

Until a few years ago the Lake Superior Transit Company had a monopoly of the flour carrying trade from Duluth, and upon signs of rebellion by the St. Paul & Duluth road, attempted to divert flour business to Washburn. Through the efforts of Messrs. Dodge and Fisher, of the St. Paul and Duluth, ably seconded by Duluth people, this monopoly was broken and the flour traffic from Duluth increased four-fold. The shipments of flour so far this season are not far from three-quarters of a million barrels, and it is thought will aggregate a million more before the season closes.—*Duluth News*, July 28.

WHAT DOES IT ALL MEAN ANYHOW?

In our July number we noticed the incorporation of THE CONSOLIDATED ROLLER MILL CO. in Chicago, the incorporators of which were leading manufacturers of roller mills and general mill-builders and furnishers. The announcement has stirred up quite a breeze among millers and mill furnishers, for the reason that no special particulars were given as to the objects of the new corporation. On being appealed to for some specific information "one who knows" has furnished the following, which has recently first appeared in print in the *Northwestern Miller*. The communication reads as follows:

During the recent National Millers' convention in Chicago a number of mill-furnishers who were present held a meeting for the purpose of talking over the Downtown patents. In the course of this informal talk, considerable was said regarding the state of the mill-furnishing trade and the very serious abuses that had crept into it. It was universally admitted that the mill-furnishing business had been in a lamentable condition for over a year, and in the hope of forming an organization to take concerted action looking toward the betterment of the condition of the business, a meeting of those interested was held at Chicago on the 23d of June. Eleven of the leading mill-furnishing firms had representatives present, who took part in the discussion.

The meeting unanimously agreed upon the following points: First, that no bonus, gift or commission should be paid to head millers or other employees for the purpose of securing orders. Second, that owing to the great difficulty in making correct estimates in remodeling old mills, the mill-furnishers will no longer do the millwright work in such mills by contract. Third, no plans will be made in advance of the contract, except for pay at a price to be agreed upon. Fourth, that no guarantee should be given beyond the quality of the machinery and its suitability for the purpose. Fifth, that the limit of credit should be 12 months on the final payment.

The matter of insurance and freights was also discussed, and it was unanimously agreed that an earnest and determined effort should be made to advance prices on all mill-furnishings at least 10 per cent. It is probable that another meeting of the mill-furnishers will be held in the near future.

From the above it will be seen that most of the largest and best firms engaged in this business in the country, have wisely determined that the continued existence of themselves and the trade demand an immediate correction of the present decidedly abnormal state of trade. It is either an amelioration or the total extinction of the capital invested in this line. It may as well be understood, first as last, that the end has been reached in the matter of long time. Mill-furnishers have about made up their minds to go out of the banking business. When a man can have his mill put up for him at close prices, its workings guaranteed, and pay for it in three, four or five years, the mill-furnisher has stepped out of his legitimate business and

has become a banker, on the riskiest line of banking ever done, for he guarantees not only his own work, but the miller's work, his honesty, the crop and the entire financial status of the country three to five years hence. It is to the mutual interest of everyone concerned that this kind of business be stopped at once and forever. If the mill-furnishers can accomplish this result they are entitled to the thanks of every intelligent miller in the country.

Notwithstanding this explanation a good many millers and mill-furnishers with whom we have talked during the past fortnight, seem to be considerably muddled. Some maintain that the whole affair is simply a consolidation of owners of roller-mill patents, with a view to squeezing certain manufacturers out of business and to collect royalties from millers for infringement of some one or other of the numerous patents now controlled by the Consolidated Roller Mill Co. of Chicago.

Some believe that all of the "eleven of the leading mill-furnishing firms" represented at that meeting "to take concerted action looking towards the betterment of the condition of business" are interested in the CONSOLIDATED ROLLER MILL CO. If this is so, the millers would like to know as soon as it may be convenient for the company to inform them, so that they may be saving up the glittering gold they are just now accumulating so rapidly (?) to pay for infringing on some roller mill patents of some kind, which doubtless every mother's son of them that uses a roller mill has done. If not so, it would be well for the "eleven leading mill-furnishing houses" to speak out individually and let the milling public know whether there is a "pool" among mill-furnishers on roller mill patents; on prices of milling machinery generally; on credits, etc., and especially whether the CONSOLIDATED ROLLER MILL CO. of Chicago, is a separate and distinct institution, organized for the benefit of roller-mill patentees only.

Some mill-furnishers with whom we have talked do not seem to believe much in a pool of mill-furnishers for any purpose anyhow. They say, if the biggest railroad corporations in the country cannot maintain a pool for any considerable length of time, that it is quite useless for mill-furnishers to try it.

All that is needed is for mill-furnishers to use common sense and sound business judgment in conducting their individual business and not to go to wild extremes just because some one else has. It requires no organization to do this. The moment an organization in any line of business of those who supply, is made, those who consume immediately suspect that some one is trying to get the best of them. Numerous flagrant abuses have crept into the business, and the only way to stop them is for all concerned to stop. One of the worst abuses perhaps is the giving of long credits. Mill-furnishers like other business men find it unprofitable to give long credit and millers should not ask it. In these times of close margins the miller who is paying interest will find it a hard job to save himself from financial ruin.

We will send the United States Miller, The American Miller, and The Northwestern Miller, (weekly), and The Milling World, (weekly), for one year, to any address in the United States or Canada for \$4.00, or to any Foreign Country for £1. 3s.

EVERY MILLER MUST COME TO IT.

"What?" You ask.

There can be no doubt that the average miller longs to have a rest from making any new ventures. Especially he who has not been parsimonious in the equipment of his mill. However, no one can deny that competition makes it obligatory for every one to be on the alert, least they are outstripped in the race by their rivals. At no time in the history of the milling industry has the miller more earnestly asked himself: "How can I hold my own in this warfare of prices and goods?"

Many have satisfactorily and practically solved the problem. They have at all times been wide awake to the importance of perfecting every detail of their facilities. They have kept their eyes open to ascertain the weak points about their mills, and have thus been always ready for any addition or change that would fortify their position and make them masters of the situation. It was these millers who soon discovered that nothing impeded more the attainment of good results upon the gradual reduction system, than the imperfect feeding arrangements in vogue upon the rolls. Recognizing the necessity of a full and uniform feed upon the rolls, they were ready to adopt the device that possessed the features affording these advantages.

It is to this that all millers must come, and that very soon. The utter impossibility of doing good work with an uneven, irregular feed must become patent to all intelligent inquirers, and there is no one who can fail to see that with such a manifest drawback, successful competition will be impossible. The day is at hand when imperfect work in the mill entails financial ruin, and while some may be tardy in realizing this fact, they must, in the end, feel its truthfulness and adopt the methods which will permit an escape from disaster.

The illustrations herewith presented contrast the work of the Sperry Automatic Force Feeder with the feed of rolls having only the



ordinary feed roll. Figure 1 shows the even flow and the unbroken sheet delivered by the Sperry Automatic Feeder to rolls. As this Feeder has no feed roll and no hopper in which

lumpy material, or any obstructions whatsoever can lodge, there is never any cessation in the flow of the stock. As long as the belt is kept on the pulley, the operative can be positive that the feeder is doing its work. Unlike automatic feeders which utilize the old feed roll and have a separate hopper of their own, it needs not to be tickled in the back, done on such feeders to prevent an accumulation in the rear from wedging the hopper and shutting off the feed. The Sperry Feeder is as well positive as automatic, and after it is once started, will spread the feed, without attention from the miller, the full length of the rolls, with no variation at any point in the sheet falling to the rolls. The thickness of the sheet will vary with the

volume of the stream delivered to the feed box. That rolls can work under such conditions millers need not be told.

A mill with a full complement of these Feeders can show results so perfect and uniform, at all times, that it is surprising to those who have never witnessed anything of the kind. The mill will run with the precision of clock-work, and the pleasure will be as great as the profit in operating it.

In figure 3 is shown the manner in which the ordinary feed rolls deliver break or soft stock and bran to rolls. This kind of material is liable to pack in the hopper, and for that reason the feed roll can not turn out an even stream its full length.

Where the stock is loose, it will feed heavily, and where tight, it feeds lightly, as is plainly exhibited in the cuts.

The remaining figure 6 is designed to represent sharp stock-feeding over feed-rolls, which are clogged at places by little chunks of dough and other foreign matter that finds its way out of reels, elevators and conveyors into the feed-box of rolls. The operative in such cases is expected to have a small piece of tin in readiness, and as soon as he discovers these obstructions (sometimes late in the day), he must ply his sheet of tin, and cut or wear them out.

These comparisons are by no means overdrawn. It very frequently happens that feed rolls quit feeding entirely on soft stock from accumulations in the hopper. Even some automatic feeders, with feed roll and hopper, stop from the latter cause. What an endless trouble is experienced with such feeders,



and what poor chances has the mill to do justice to the product. Rolls running on the stream and jumping at each arrival of a mass of feed; rolls running empty and becoming burning hot; boxes heating from uneven feed; choke-ups arising from a discharged surplus, which had accumulated in a closed or partly closed feed-hopper; specky flour and rich offal, as a result of irregularly fed reels and unevenly reduced product; crusty millers and dissatisfied proprietors, occasioned by a demoralized mill; lean pocket-books and slim bank accounts, brought about by a wholly unnatural course of events. These are some of the casualties which may be traced to illy constructed and poorly devised feeding appliances in use.

The manufacturers assure the milling public that they make no claims for their machine and no assertions of any kind which they are not at any time ready to substantiate. Having an invention of unusual merit, they feel no timidity in presenting its advantages. They have some of the most flattering testimonials in their possession, and can

refer to some of the most prominent and most reliable millers who are using the Feeders throughout the entire mill. The Feeders are shipped to all parts of the country on trial, and if not found as represented, or better, can be returned at the expense of the manufacturers. Prices and further information can be obtained from the SPERRY FEEDER CO., Minneapolis, Minn.

We will send the U. S. Miller and American Miller for one year for \$1.50.

FIRING STEAM BOILERS.

There is a very simple way of firing, which answers very well, and which does not require complicated constructions and appliances, always more or less objectionable.

It depends upon the following considerations: When fresh coal is charged upon incandescent fuel, as is the case in the usual mode of firing boilers, the volatile gases of the fresh fuel are rapidly evolved, filling the fire-box to such an extent as to prevent the ingress of air through the grate, and this occurs at the very time the air supply should be considerably increased. The result is imperfect combustion and consequent waste of the very best combustible gases, viz., the hydro-carbons, which cannot burn for want of air to combine with; free carbon is thus liberated from these gases, and smoke is produced. In order to avoid smoke, and consequent loss of fuel, any sudden production of volatile gases, either during or after firing, must be prevented; and sufficient air should always be introduced, and so distributed, as to burn those gases as quickly as they are produced. This can be done in the following manner:

Before putting on fresh coal, the burning fuel should be pushed back from the front part of the grate, and distributed on the incandescent fuel behind, care being taken that this portion of the grate is entirely free from hot fuel. When the front part of the grate has become comparatively cool, owing to the cold air passing through it, fresh coal is distributed thereon. The freshly-charged fuel lying on the cool grate, with cold air passing through it, will be heated by radiation only, partly the flame from its own gases, and partly by the surrounding hot brick-work. The volatile gases will consequently be liberated at a comparatively slow rate, and will combine with the air, which, entering through the interstices in the fuel on the cool part of the grate, will be evenly distributed over its surface.

Gas and air will thus be supplied in nearly the proper proportions for complete combustion of the fuel, and as the production of volatile gases diminishes, the air passing through the front part of the grate will enter into combustion with the fuel thereon, which has been deprived of nearly all its volatile constituents.

By means of this simple method the sudden production of a large volume of volatile gases is avoided, and air in a well divided state is always present to consume the gases liberated; thus smokeless combustion and saving of fuel are realized. Care must be taken that the fresh fuel is charged at regular intervals of time and in equal quantities.—*Extracts from a letter written by Dr. Frederic Siemens, of Dresden, Saxony, to Dr. Geo. H. Benjamin, of N. Y.*

BOILER EXPLOSIONS.

An old friend accosted us at the Club recently with this question: "Why don't they stop blowing up boilers and killing people? You say there is no occasion for it, and are talking about stopping it in every number of your journal; seems to me if the remedy you suggest will stop it, why don't we get the laws, and stop this murdering people?" We invited the old gentlemen to take a seat; this done, we inquired of him if he did not at one time conduct a large manufacturing establishment? He replied: "Of course I did, and used steam for power, but there never was anything like a 'blow up' in my mill!"

"Of course you exercised great care, and took every precaution to prevent damage or danger to your plant," we replied.

"No (he said), never bothered my head about, it had enough else to attend to; tell ye how I did it! My engineer in charge was the highest salaried man in my mill. I always looked around for the best engineer I could find, paid him more than anyone on the plant, engaged him by the year, and held him responsible for sufficiency and regularity of power, also for safety of boilers, supplied him with everything he called for without question, and never had my mill stop one minute during working time, made money every year, and when I quit business and had a little money to enjoy myself with, my engineer had not only my respect but my gratitude. He is now the largest stockholder in the company that acquired the plant and business."

We informed our old friend that if all who use steam would take his plan we would never hear of a boiler explosion; but the majority of boilers that explode, as a rule, are found to be in charge of cheap men, not the best paid men, but too often ignorant laborers, boys, without skill or experience, and all from a mistaken notion of economy.

Where steam users prefer chances to absolute safety, the State should interfere in the interest of the public, and such interference is legitimate clearly in the line of duty. What is wanted is legislation that will not abridge or hamper the use of steam as a motor, but regulate the conditions of its use, and when the subject is fully understood, those who complain most will find that their interests are better served by such laws than by the system which allows all who set up a boiler to run it regardless of the conditions which insure its safety.—*Stationary Engineer.*

ITEMS OF INTEREST.

THE WORLD'S COPPER PRODUCTION.—The production of copper throughout the world last year is estimated at 221,715 tons, as compared with a corresponding production of 217,483 tons in 1884, and 153,057 tons in 1880. The largest copper producing countries last year were Australia, 11,400 tons; Chili, 38,800 tons; Germany, 15,250 tons; Japan, 2000 tons; Spain and Portugal, 49,949 tons; and the United States, 74,050 tons.

ALUMINIUM.—London "*Engineering*" of July 9, contains a highly interesting article on the use and manufacture of aluminium, prefaced as follows:

If the modern metallurgist ever indulges in day-dreams like those of his predecessor, the alchemist, and pictures himself possessed of a spell powerful enough to subdue the

most stubborn chemical affinities, surely it must be on aluminium that his mental gaze fixes itself at such times. An ample supply of that metal would utterly transform all engineering, and might even remodel the conditions of our life. The mind might dwell for days upon the changes which would be effected by the introduction of a tenacious structural material of one-third the specific gravity of iron, without being able to grasp them fully. What a revolution it would effect in naval architecture; how the spans of our bridges would increase, and what a growth there would be in the power of the engineer to attack difficulties which now seem impossibilities! But the qualities of strength and lightness are not all that aluminium has to recommend it. It has a low melting point, about 1000 deg., and not only can be cast with facility, but it works well under the hammer. It will not oxidize even at a red heat, and will resist all acids, except hydrochloric. It will alloy with most metals, and in so doing lends them a large share of its characteristics. It is a capital conductor of electricity, and, indeed, seems to combine in itself all the good qualities of all other metals.

At present an unlimited supply of pure aluminium at a low price is still a dream, but as events march we might any morning awake to find it a reality.

THE BEST WAY TO UTILIZE WATER-POWER and get the benefit of its cheapness is to have a steam engine ready to start when the water gets low. The *Boston Commercial Bulletin* says:

"It is often argued that the water power of Holyoke, her chief dependence, is exhausted. During eight months of the year there is water enough pouring over the big dam, which is not utilized, to run a dozen additional mills; during the other two there is enough to supply what are already there, and in July and August there is some trouble in dry seasons, but even this will in a measure be overcome, it is thought, as the water-power company has expended over \$100,000 inside of a year to make the dam water-tight. Admitting for the sake of the argument that there will be a shortage of water during two months of the year, even the mills can be run by steam—nearly every mill having its steam engine—and pay less for the power than is paid in places where steam is used all the year around."

STEEL RAILS FOR THE WEST.—Five shiploads of railroad iron arrived in Duluth, Minn., July 13th. with 6500 tons of rails, and seven more cargoes are near. Steel rails enough to build 700 miles of railroad will be landed at the head of Lake Superior during the navigable season of 1886. Among the railroads receiving these are the St. Paul, Minneapolis & Manitoba, 27,000 tons; Northern Pacific and its branches, 23,000 tons; Duluth & Manitoba, 13,000 tons; Minneapolis & Pacific, 6000 tons; Duluth & Iron Range, 4000 tons; Sault Ste. Marie & Minneapolis (to Washburn), 8000 tons.

INCREASED USE OF ASPHALTUM IN BUILDING.—The use of asphaltum in building is said to be largely on the increase, principally employed as a prevention against damp cellar walls and masonry work under ground, also for water-tight cellar floors, coating for rain-water cisterns, covering for underground vaults, etc. The usual method of applying it

is to reduce to a semi-liquid state, in a large iron pot, over a good fire, care being taken that the flame does not rise over the top of the pot and ignite the asphaltum. The wall is made as nearly dry as possible, and the joints somewhat rough, to admit of the asphalt penetrating the pores and securing a hold; the wall is then covered with asphalt, applied with a long-handled brush, while the material is hot and brushed in well—a coating one-half inch thick being as perfect a protective as a thicker one. A barrel of asphalt, as found in the market, heated and applied to vertical walls of brick, will ordinarily cover about 250 square feet of surface, and produces most lasting results.

10,000 More Wanted this Month

A FEW PROPOSITIONS FOR YOUR CONSIDERATION.

In order to add to our list of regular subscribers to the UNITED STATES MILLER, (established May, 1876,) we submit the following propositions, one of which we trust you will accept by return mail. The subscription price of the U. S. Miller alone is \$1.00 per year, but if you will send us your order within 30 days from receipt of this we will send you for one year

For \$1.00 "The U. S. Miller" and "Ropp's Calculator" or "Ogilvie's Handy Book" or "The Fireman's Guide" or "Fifty Complete Stories" or "High and Low Life in New York."

For \$1.50 "The U. S. Miller" and "Everybody's Paint Book" or "Webster's Practical Dictionary" or Potter and Huntington's "Millers' Exchange Tables."

For \$2.50 "The U. S. Miller" and "Moore's Universal Assistant and Complete Mechanic."

For \$3.00 "The U. S. Miller" and "Dr. Cowan's Science of a New Life," an invaluable work for all married people or those contemplating marriage. Fully illustrated.

For \$3.50 "The U. S. Miller" and "Gibson's Gradual Reduction Milling," the best work for the use of operative millers published. Published 1886.

For \$4.00 we will send you for one year all the following milling papers, "The U. S. Miller," "The American Miller," "The Northwestern Miller" (weekly), and "The Milling World" (weekly). If you are now a subscriber for any of these papers you will be credited for another year, or if preferred will send papers to any other address desired.

For \$5.00 we will send you the papers named in our four-dollar offer and "The Millers' Review," (Phila.), or "The Modern Miller," (Kansas City), or "The St. Louis Miller."

Address all orders to

E. HARRISON CAWKER,
Publisher,

No. 124 Grand Ave., Milwaukee, Wis.

"Mill for Sale," "Mill for Rent," or "Machinery for Sale," short advertisements, \$1.00 each insertion.

HIGH-PRICED ART—"My, but those ere works do run into money," remarked a passenger whose breath smelled like the south side of the Ohio river. "It beats all what fools some folk make over pictures. When I was in Chicago I saw a little painting about a foot square that was held at \$500. 'Spect some simpton will come along and buy it. If I had a million of money you'd never catch me paying \$500 for a little painting like that."

"That's the way you talk," spoke up a bashful drummer, "but I'll bet you paid four times as much money for a painting not a tenth part as big."

"What, me?"

"Yes, you."

"What kind of a painting?"

"The one on the end of your nose,"

Gas Engine for Sale

One "OTTO" GAS ENGINE, 10 H.-P., in very good condition, for sale cheap. Address

J. C. SUNDIN,
124 Grand Ave., Milwaukee.

WANTED.

A situation by a good practical Roller Miller. Have worked in a Mill of 66 Rolls. References can be given.

P. BERGER,
184 Reed St., Milwaukee, Wis.

FOR SALE

10,000 acres of Hardwood and Agricultural Lands near Lake Superior, AT \$3.00 TO \$5.00 PER ACRE. 4,000 acres in the Iron River Country, at low rates.

A RARE OPPORTUNITY FOR A GOOD FIND.

IF YOU WISH TO BUY
**CITY PROPERTY IN DULUTH,
OR PINE, IRON OR FARM-
ING LANDS,**

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LUCIEN * J. * BARNES,

Room No. 2, Exchange Building.
DULUTH, MINN.



**Do Your Own
PRINTING.**

etc. is Easy by our printed instructions. For home or business use old or young. Send 3 stamps for Catalogue of Presses, Type, Cards, &c., to factory.
KELSEY PRESS CO.
Meriden, Conn.

AGENTS WANTED. SAMPLES

Goods SELL everywhere, to Everybody. BIG PAY! A pocket case of EIGHT Lovely SAMPLES, with our terms, FREE TO ALL. Send your address, and 3 stamps for mailing. Address
THE HOLLEY WORKS, Meriden, Conn.

Mills • For • Sale.

Short advertisements will be inserted under this head for One Dollar each insertion.

FOR SALE AT A BARGAIN.

A No. 1 four-run steam mill, located at Browning, Linn Co., Mo., on the C. B. & K. C. R. R. The machinery was furnished by the Nordyke & Marmon Co. Will sell one-half or all at a very low price, and on good terms. Reason for selling, I am not a practical miller. Address

JAMES H. WALKER, Browning, Mo.

FOR SALE.

A first-class 40-barrel water power stone and roller flour mill, situated within forty rods of side track of the C. M. & St. P. R. R. Country all settled up. Last year's grinding 20,000 bushels on custom work. Address

H. F. FISHER, Camp Douglas, Wis.

MILL FOR SALE.

Two runs of stone; one Garden City Purifier; one Victor smutter; one separator; one corn sheller; two reels; one Leffel wheel 48-inch under ten-foot head, and the head can be increased to fifteen feet if required. Plenty of water all the year around. Dam is on solid rock bottom, only 4-6-12 high. Good wheat country. Nearest railroad, 5 miles. Nearest town, 2 miles. Twenty-nine acres land, house and stable for \$3,000. One thousand dollars cash; time to suit the buyer at 6 per cent. interest. Will sell half. Address

F. J. DWARSHAK, Festina, Iowa.

MILL FOR SALE.

The whole or half interest in a 50-barrel full roller mill, on account of death of partner. Good winter wheat section, climate and location. Will take one-third on the whole value in Western land. Address

"EAGLE ROLLER MILLS," Plymouth, Ill.
or U. S. MILLER, Milwaukee, Wis.

FLOURING MILL AND ELEVATOR FOR SALE.

All or one-half interest in a first-class 75-barrel steam flouring mill and elevator. All new and in good order. Located at Meriden, Jefferson Co., Kan., on the Atchison, Topeka & St. F. and the L. T. & S. W. Railroads; in the best wheat and corn growing county of the state. Building, heavy frame, 36x46, three stories, attic and basement, with stone engine room 22x34; all under iron roof. Capacity of elevator, 15,000 bushels; corn crib, dump and sheller. Side track to mill. Two sets 9x18 Allis Rolls; three burrs on wheat, one on corn; flour packer, scales, etc.; two Smith Purifiers; Barnard & Leas Separator; one 12-foot two-reel chest; one 16-foot four-reel chest; corn meal bolt; California Brush Finisher; one Western Corn Cleaner. Grain trade more than pays all running expenses. A splendid chance for a good miller. Exchange trade good. Mill cost over \$16,000. Will sell all for \$12,000, half cash, or half interest for \$6,000, half cash, or, if not sold by July 1st, will be leased for a term of years to responsible parties.

J. O. PERKINS, Sec'y.
MERIDEN MILL CO., Meriden, Kan.

FOR SALE CHEAP.

New all roller mill containing 11 pairs of rolls 9x12, 9x18 and 9x24, 6 reels, 3 purifiers, 1 centrifugal reel, 5 scalping reels, separator, smutter, corn sheller and 4-foot feed stone. Water power mill driven by a 50-inch special Leffel wheel, 8-foot head and plenty of water the year around. Millhouse 35x50, 2 1/2 stories; 11 feet high stone basement. The mill was built and started up new two years ago last June. It is situated in the best milling town and best wheat county in the State of Wisconsin. Only one mill to compete with in a radius of 10 to 25 miles; all a thick settled country around. The best of reasons for selling. For particulars call on or address

A. F. ORDWAY & Son, mill builders and furnishers, Beaver Dam, Wis.

SITUATION WANTED.

Short advertisements will be inserted under this head for One Dollar each insertion.

WANTED—A practical Oatmeal Miller, one who understands his business and is willing to attend to it. Can receive additional information by calling on, or addressing CHARLES D. DANA, 10 State St., Chicago, Ills.

Marshall Automatic Grain Scale

FOR USE IN

FLOUR MILLS,

BREWRIES,

Malt Houses,

ELEVATORS,

Distilleries, & Rice & Mills,

OIL MILLS,

Starch Factories, &c.



This Scale is designed for weighing and registering the amount of grain transferred from one point to another. The weighing and recording is absolutely correct, and the machines are sold with a guarantee to that effect. By their use the miller can tell at any time how much wheat he is using to make a barrel of flour and know at once whether he is milling at a profit or loss. This scale can be used with equal advantage by shippers of grain or others who desire to know how much grain, flour feed, bran, shorts, screenings, coal (or any other thing that can be spouted), is being transferred, with a perfect record made of same.

J. B. & H. C. DUTTON, Detroit, Mich.

Gentlemen: We have used the Marshall Automatic Grain Scale in our mill for six months, and it has proved entirely satisfactory.

Yours truly,

ELDRED MILLING CO.

J. B. DUTTON & CO., DETROIT, MICH.

No. 52 WOODWARD AVE.

SOLE OWNERS OF THE PATENT.

Also handle a full line of Flouring Mill Machinery.



OUR "SPECIAL" PURIFIER,

RECENTLY IMPROVED AND PERFECTED.

THIS machine has some new and very valuable features, and we think we can justly say it is the **PRINCE PURIFIER OF THE WORLD.** It has an enclosed case or sides. It has the lightest Shaker made. It has no conveyors to wear the middlings. It has a complete aspirator at the tail. It has a double shaking spout for a cut-off. It has our perfect Automatic Feed. It has our unequalled Cloth Cleaner. It has brass eccentrics three inches long. It has the most perfect control of the blast. It is guaranteed to run five years without any attention except to oil the bearings, and is beyond any question the most perfect, practical, and complete machine made in the world. We will back this statement up by placing it on trial beside any other Purifier made, and if it does not prove all we claim, it may be removed. We know just what we are talking about, and will enter into public tests, and pay all expenses of same, if others can be induced to do so.

Our Purifiers have no "pockets" to fill up and interfere with the working of the dust collector. They have no subdivided compartments to catch dust and allow it to slide back on the riddle. They have no brush to wear out the cloth, and drop barrels of good middlings each day into the tailings and low grade stock, a waste which costs the millers of this country *hundreds of thousand of dollars annually, but they don't observe it.* They have no roller feed to choke off, or feed half the time only half the width of riddle, thus taling off rich material and permitting the middlings to be poorly purified. Hundreds of thousands of dollars are lost each year by the millers through imperfect feed.

We have none of these imperfections which can be found on the so-called "Standard Purifier," and remember we have not made a statement in this circular about Purifiers but what is **GOSPEL TRUTH.**

During the past year we have settled all disputes with the Consolidated Middlings Purifier Company, so that the Purifiers now made by us are licensed under all patents, about one hundred in number, owned by that Company; besides being protected by our own patents, which embody several most valuable and important features, owned and controlled exclusively by ourselves.

OUR IMPROVED ROLLS

are gaining friends wherever they go. They are the most durable and easily handled of any Roll on the market. They are finely finished in the light of the mechanical arts. Many millers have asked us, "Were not these machines made expressly for some Exposition?" and no wonder, for each one is a model of elegance. Our **PATENT AUTOMATIC FEED** should never be lost sight of when you are buying a Roll or Purifier. It always runs like clock-work, and even better, for it never stops when it should run, neither does it go too fast or too slow. **IT GOES JUST RIGHT.**

A full supply of Bolting Cloths, Belting, Pulleys, Cups, etc. always on hand. Write us for estimates on Flour Mills or our "SPECIAL" Corn Meal System. [MENTION THIS PAPER WHEN YOU WRITE.]

ADDRESS

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COLUMBUS, OHIO.



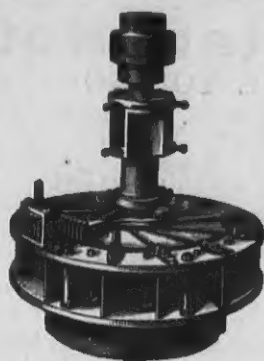
The 'HOPEWELL' TURBINE Water Wheel

IS THE BEST.

For full particulars address

A. J. HOPEWELL,

EDINBURG, VA.



JAMES LEFFEL'S IMPROVED WATER WHEEL,

Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,
and 110 Liberty St., New York City.

[Please mention this paper when you write to us.]

Improved + Walsh + Double + Turbine



This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

B. H. & J. SANFORD,

Phenix Iron Works,

Sheboygan Falls, Wis.

STEEL CAR PUSHER

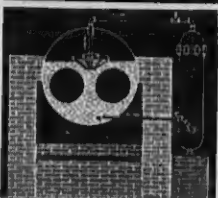
Made entirely of STEEL. ONE MAN with it can easily move a loaded car. Will not slip on ice or grease.

Manufactured by

E. P. DWIGHT,

Dealer in Railroad Supplies, 407 Library St., Philadelphia, Pa.

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VAN DUZEN'S Mechanical Boiler Cleaner

Takes out all mud and scale forming propurities from the water of Steam Boilers, keeping it clean and free from all impurities. Send for circulars. Manufactured by

E. W. VAN DUZEN, Cincinnati, O.

Preserve your Copies of the
UNITED STATES MILLER

—IN AN—

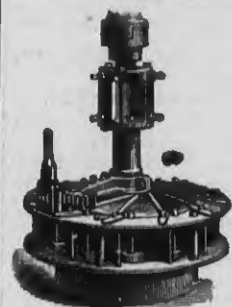
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This binder is suitable for binding your copies of the UNITED STATES MILLER for two or more years, any required number can be taken out without disturbing its contents. Binders made for all Publications, for binding Music, etc.

ITS EQUAL CANNOT BE FOUND.

Send post paid for \$1.10. Address

UNITED STATES MILLER,
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POOLE & HUNT'S Leffel Turbine Water Wheel

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 30 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.

Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

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Did you hear us?

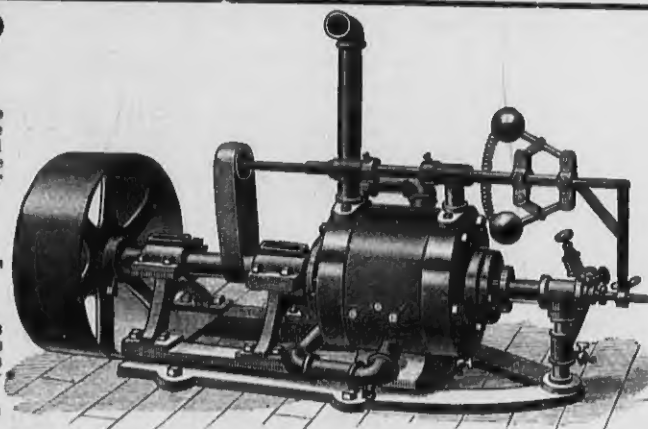
We told you over a year ago that our Engine was "on the market to stay." We now tell you it is the best Engine in the world, and is gaining favor every day and everywhere.

Highest Economy,
Closest Regulation,
Finest Automatic Cut-off,
Most Durable,

THE BEST in all respects and for all uses, and on prices we can double discount any engine maker in the U. S. Yes, it's a rotary, and we can prove all we claim.

If you want to know more about it send for Circulars and References.

[Please mention this paper.]



WADE & WARDELL,
Cadillac, Wexford Co. Michigan.

FROM 1-4 to 15,000 LBS. WEIGHT.

True to Pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger, and more durable than iron forgings in any position or for any service whatever.

40,000 CLANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this.

CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description. Send for Circulars and Prices to

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Office, 407 LIBRARY ST., PHILADELPHIA, PA.

STEEL CASTINGS

Works, CHESTER, PA.

[Mention this paper when you write to us.]

JUST OUT.

The only thoroughly practical work on Modern Milling in the English language designed for the use of operative millers only.

LOUIS H. GIBSON'S

Gradual Reduction Milling.

Contains 429 pages, many cuts, and diagrams for a 100-barrel mill, 70-barrel mill, a 50-barrel mill, and a 500-barrel mill. Full of interesting and valuable matter. Publisher's price \$3.00. Will be furnished with the United States Miller for \$3.50, postage prepaid. Send in your orders at once to

E. HARRISON CAWKER,

Publisher UNITED STATES MILLER, Milwaukee, Wis.

GOODRICH PASSENGER STEAMERS

TWICE DAILY EACH WAY

Milwaukee & Chicago.

Fare to Chicago \$1 less than by railroad.

Chicago and Racine Line.

Leave Milwaukee.	FOR	Arrive at Milwaukee.
7:00 P. M.	Chicago	5:00 P. M.
7:30 A. M.	Chicago	5:00 A. M.
7:00 P. M.	Racine	5:00 P. M.

Fare to Chicago Only \$2.

Round Trips, \$3.50, meals and berths included on first-class tickets.

Sure connections at Chicago with all morning trains for all points East, South and Southwest.

Sheboygan & Manitowoc Line.

Daily.*	Leave Milwaukee.	At Milwaukee.	Arrive.
	7:00 a. m.	4:00 p. m.	

Manistee & Ludington Line.

Daily, leave 7 P. M., except Sunday.

Saginaw & Bay City Line. Daily except Sundays.

Leave Milwaukee.	At Milwaukee.	Arrive.
7:00 p. m.	8:00 a. m.	

Making close connections at Ludington with F & P. M. R. R. for Saginaw, Bay City, Detroit, and all points in Northern Michigan and all points East.

Pierport & Frankfort Line.

Leave Milwaukee daily at 7:00 P. M., except Sunday.

Kewaunee & Ahnapee Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays, at 7 A. M.

Menominee & Sturgeon Bay Line.

Tuesdays, Thursdays and Saturdays at 7 A. M.

Green Bay & Escanaba Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays at 7 A. M., touching at Oconto, Menominee, Nahma, Fayette, Depere, and making close connections with railroad at Escanaba for Neenah, Ishpeming, Quinnesec, Norway, and all Lake Superior points.

*Mondays. †Sundays.

G. HURSON, Secretary and Agent.
THOS. FORBES, Passenger Agent.

Green Bay, Winona & St. Paul

RAILROAD
IS THE **SHORTEST ROUTE FROM GREEN BAY**
and all points in
EASTERN WISCONSIN

—TO—
NEW LONDON,
STEVENS POINT,
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MERRILL,
WINONA,
LA CROSSE,
CHIPPEWA FALLS,
STILLWATER,
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—ST. PAUL, MINNEAPOLIS,—
and all points in MINNESOTA, DAKOTA,
and all points on the
NORTHERN PACIFIC RAILROAD and ST. PAUL,
MINNEAPOLIS & MANITOBA RAILROAD.

Passengers from all points on the CHICAGO & NORTHWESTERN RY, south of Green Bay and Fort Howard, connect with the

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All freight insured across Lake Michigan. Passengers save \$2.75 to all points East.

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—THE NEW ROUTE TO—
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CENTRAL AND NORTHERN WISCONSIN.

The new line to Menominee is now completed, and opens to the public the shortest and best route to all points on the Michigan Peninsula.

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AT GREEN BAY with Chicago & North Western and Green Bay, Winona & St. Paul Railroads, for all points North and West.

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This Railroad is now the acknowledged Fishing and Hunting Line of Wisconsin: Milwaukee to Sheboygan, Sheboygan Falls and Manitowoc.

Through the picturesque scenery of the Fox River Valley, and the cities of Kaukauna and Appleton, noted for their vast water power and manufacturing facilities.

Through Northern Wisconsin and the Michigan Peninsula, the most beautiful Region of Forests, Streams and Lakes in the Great Northwest.

Within its limits are located the best Fishing and Hunting Grounds in the country. The equable climate and the pure air of the Pine Forests, make it a most desirable Sanitarium, especially for sufferers from Hay Fever and Lung Diseases.

Good Hotels, Fleets of Pleasure Boats, and general facilities for comfort and pleasure at Lake Gogebio, the Eagle Waters and Pelican Lake.

Through the most wonderful Mineral Region of the United States: The Gogebio, Montreal and Penokee Iron Ranges. A new and rich field for the Prospector, Speculator and Capitalist. Picturesque scenery and interesting sights for the Tourist. The line terminates at ASHLAND, Lake Superior, well known as a desirable Summer Resort.

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CHICAGO and MILWAUKEE,
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If you are going to Denver, Ogden, Sacramento, San Francisco, Helena, Portland, or any point in the West or Northwest, ask the ticket agent for tickets via the "NORTHWESTERN" if you wish the best accommodations. All ticket agents sell tickets via this line.

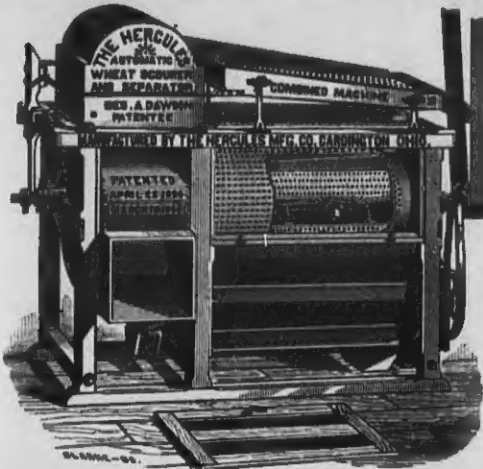
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Gentlemen:—We like the "Hercules" machine very much indeed. It has increased our trade, and we will buy another for our other mill in the Spring. It certainly is the best Scourer we know of.
Yours Respectfully,
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SCHREURS BROS.,
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Rapid * Grain * Dryer!

FOR RAPIDITY, SATISFACTORY RESULTS AND THOROUGHNESS

UNEQUALED!

Get the Best; the Best is Cheapest. No Parch, Shrivell, Discoloration or other evidence of Artificial Drying.

The grain is dried at the rate of about 1,000 bushels per hour, the automatic arrangements and low temperature used insuring evenness and uniformity. The capacity, however, can be increased in proportion to power and space afforded, these latter being the only limit. In addition to drying evenly, the operations of the very dry air, peculiar to this machine, remove from the grain any slight odor from sweat or heat, and put it in condition to grade. The air used is a prepared air, and has all the varied degrees of low temperature necessary. Damp grain made as rules of inspection require, or as dry even, as old grain. Thus the BATES' DRYER is the most perfect as well as rapid dryer extant. It is beyond question The Champion Grain Dryer. Absolutely safe against fire.

New Corn can be made to grade immediately by the BATES' CHAMPION RAPID GRAIN DRYER. Corn of present crop, all over the country, is too damp to grade, and likely to be thus for months to come and can only be made to grade by artificial means. The BATES' DRYER is the only dryer that can dry the Grain in large quantities at trifling cost, naturally, and not show parch, shrivel, or other evidence of artificial drying; the drying by this method being precisely that accomplished by a natural dry atmosphere, only that the machine accomplishes in a very brief space of time what would ordinarily require months. It is not necessary by this process to dry out any more moisture than will bring the grain up to the desired grade.

Dryers for grains of all kinds, including Brewers' Grains, cotton seed, flax, and grass seeds, glucose refuse. Also for Phosphates, Starch, Glue, Fruit, Lumber, Shingles, and Veneering, Hides, Leather, Hair, Moss, Wool, etc.

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The expense of drying by this method is reduced to smallest possible cost, which is below that of any other. Machines are compact. Experienced workmen will be sent to set them up and instruct as to operating. For further particulars address,

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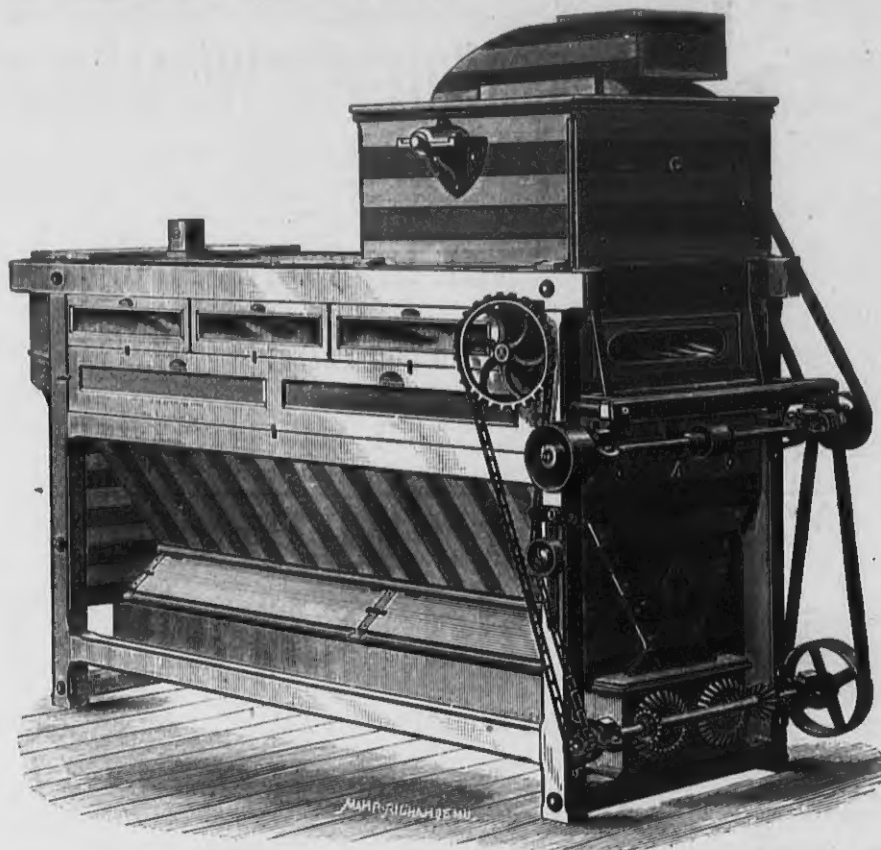
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